

## **WHAT WE CLAIM IS:**

**Claim 1.** A metallic tubular hose comprising a hose body having a longitudinal edge at one end thereof and a bellows metallic tube inner layer with the bellows metallic tube inner layer composed of a corrugated bellows portion and a restricted portion, a jacket composed of a plurality of layers surrounding the inner layer, a rigid insert pipe extending into the hose body and a metallic sleeve engaging the hose body along said longitudinal edge for compressing said jacket against said rigid insert pipe wherein said plurality of layers in said jacket includes an inner layer adjacent to said restricted portion of said bellows metallic tube inner layer composed of a flexible and hard material of a rubber or resin composition possessing a tensile modulus of between 4MPa and 8MPa for a composition of rubber and above 300MPa for a resin material composition..

**Claim 2.** A metallic tubular hose as defined in claim 1 wherein the tensile modulus of said resin composition is between 1000MPa and 6000MPa.

**Claim 3.** A metallic tubular hose as defined in claim 1 wherein said restricted portion is commensurate in length with said longitudinal edge and is a linear straight portion.

**Claim 4.** A metallic tubular hose as defined in claim 3 wherein said jacket further includes a reinforcing layer laminated over said inner layer and an outer layer.

**Claim 5.** A metallic tubular hose as defined in claim 2 wherein said inner layer in said jacket has a thickness of between 0.05mm and 0.5mm.

**Claim 6.** A metallic tubular hose as defined in claim 1 wherein said inner layer in said jacket is composed of a rubber material selected from the group consisting of: silicone rubber, chloroprene rubber, chlorosulfonated polyethylene, butyl rubber, halogenated butyl rubber, acrylic rubber, EPM, EPDM, nitrile rubber, and mixtures thereof.

**Claim 7.** A metallic tubular hose as defined in claim 5 wherein said inner layer in said jacket is composed of a rubber material selected from the group consisting of: silicone

rubber, chloroprene rubber, chlorosulfonated polyethylene, butyl rubber, halogenated butyl rubber, acrylic rubber, EPM, EPDM, nitrile rubber, and mixtures thereof.

**Claim 8.** A metallic tubular hose as defined in claim 5 wherein said inner layer in said jacket is composed of a resin material selected from the group consisting of : polyamide, denatured polyamide, PE, PP,PET,PBT, PBN, PVDF,ETFE, PPS, ABS, EVA and mixtures thereof.

**Claim 9.** A metallic tubular hose as defined in claim 8 wherein said denatured polyamide is a mixture of polyamide and denatured polyolefin containing a carboxylic group.

**Claim 10.** A metallic tubular hose as defined in claim 8 wherein said polyamide is selected from the group consisting of polyamide 6, polyamide 11, polyamide 12, polyamide 4-6, polyamide 6-6, polyamide 6-10, polyamide 6-12, polyamide MXD-66 or copolymers of two or more of the polyamides in the group.

**Claim 11.** A metallic tubular hose as defined in claim 9 wherein said mixture is in a proportional range by weight between polyamide and denatured polyolefin of 90/10 – 50/50.

**Claim 12.** A metallic tubular hose as defined in claim 11 wherein said proportional range lies between 65/35 – 55/45.

**Claim 13.** A metallic tubular hose as defined in claim 5 wherein said inner layer in said jacket is composed of a resin material selected from the group consisting of : polyamide, denatured polyamide, PE, PP,PET,PBT, PBN, PVDF,ETFE, PPS, ABS, EVA and mixtures thereof.